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NEW

Cytokine gene transfer in the therapy of malignancy.

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Failure to eradicate tumour may be due to insufficient activation of host effector cells. Attempts to enhance such effector function by administration of high doses of cytokines systemically has produced little therapeutic benefit and considerable toxicity. An alternative approach is to provide cytokines locally at sites of tumour deposits. One method for achieving this is to transduce cytokine genes into TIL cells which will then home to sites of tumour. An alternative strategy is to transduce cytokine genes into tumour cells to enhance haematopoietic and immune system defence against tumour. In murine models transfection of tumour cells with cytokine genes has resulted in eradication of local tumour in models using several tumour types and several cytokines. The mechanism by which anti-tumour activity is produced varies with the transduced cytokine and the haematopoietic and immune effector cells recruited. Mechanisms include generation of CTLs which specifically recognize tumour cells, enhancement of antigen presentation, and recruitment of non-specific cytotoxic cells such as eosinophils and neutrophils. With some combinations systemic immunity is induced so the animal is resistant to rechallenge at a distant site with non-transduced parental tumour and the transduced tumour has acted like a vaccine. Both these strategies are currently being evaluated in phase I trials in human tumours.

Publication Types:

- Review
- Review, tutorial

PMID: 8038497 [PubMed - indexed for MEDLINE]

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